



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/809,068	03/16/2001	Shigeru Hayakawa	000400-819	4710

7590 07/14/2004

Platon N. Mandros
BURNS, DOANE, SWECKER & MATHIS, L.L.P.
P.O. Box 1404
Alexandria, VA 22313-1404

EXAMINER

HO, THOMAS Y

ART UNIT PAPER NUMBER

3677

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/809,068

Applicant(s)

HAYAKAWA ET AL.

Examiner

Thomas Y Ho

Art Unit

3677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 17-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 17-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

Claims 1-5 and 17-31 are pending. Claims 6-16 have been withdrawn or cancelled.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/10/04 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 and 17-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Mitsui US5642636.

As to claim 1, Mitsui discloses, a door lock system for a vehicle comprising: a latch mechanism 5/14 adapted to a vehicle door and latching the vehicle door to a vehicle body; an open link 26 engageable and disengageable with the latch mechanism; a swing lever 53 connected to the open link; a rotatably mounted inside lever 29/33 positioned parallel to the open link and rotatable into contact (when 29/33 rotates clockwise, 29 engages the open link at the right end of 28) with the open link to move the open link in a non-rotating manner and rotatable

Art Unit: 3677

out of contact (when 29/33 rotates counter-clockwise, 29 travels between the straight edges of slot 28, and does not contact any edge of 28 because the diameter of the rod 29 is less than the width of the slot 28) with the open link; an electric driving source 45 having a gear member 47; and a rotary gear member 48 arranged between the swing lever and the electric driving source to be meshed with the gear member of the electric driving source, the rotary gear member being directly and engagably connected to the swing lever.

As to claim 2, Mitsui discloses, wherein the open link 26 is arranged in a same plane as the swing lever 53 (the portion 52 of the swing lever engages a slot 57 in the open link, and so at least these portions of the swing lever and open link must be in the same plane).

As to claim 3, Mitsui discloses, further comprising: a housing 1 accommodating the open link 26, the swing lever 53, the electric driving source 45 and the rotary gear member 48 so that the swing lever and the rotary gear member are rotatably supported in the housing.

As to claim 4, Mitsui discloses, further comprising: an opening lever 35 perpendicularly arranged relative to the open link 26 (the opening lever 35 is perpendicularly arranged to the tab 34 of the open link 26).

As to claim 17, Mitsui discloses, wherein the housing 1 comprises a plurality of concave portions 51 (each corner of the slot 51 is a concave portion), the swing lever 53 including a projecting portion 54 selectively engageable with the concave portions (the projecting portion of the swing lever engages the rotary gear member 48, which in turn, engages the concave portions; therefore, the swing lever engages the concave portions through engagement to the rotary gear member).

Art Unit: 3677

As to claim 18, Mitsui discloses, a door lock system for a vehicle comprising: a rotatable latch 5 including a latch groove (near 13) for receiving a striker 2 of a vehicle body; a rotatable pawl 14 adapted to contact the latch to prevent rotation of the latch, including a unitarily rotatable element 35 that rotates unitarily with the pawl; an open link 26 adapted to contact the unitarily rotatable element (the bent tab 34 of the open link contacts the unitarily rotatable element) to rotate the unitarily rotatable element and the pawl so that the pawl is moved out of contact with the latch; a swing lever 53 connected to the open link; a rotatably mounted inside lever 29/33 adapted to be operated through operation of a door handle (the key is a handle) so that the inside lever rotates into contact with the open link (if inside lever 29/33 is rotated from "LOCK" to "UNLOCK", the end portion 30 of rod 29 will move into contact with the right end of the slot 28 in open link 26) upon operation of the door handle to move the open link in a non-rotating manner, and rotates out of contact with the open link (if inside lever 29/33 is rotated from "UNLOCK" to "LOCK", the end portion 30 of the rod 29 must come out of contact with the right end portion of slot 28, and travel across the slot until it contacts the left end portion of the slot) upon release of the door handle; an electric driving source 45 having a gear member 47; and a rotary gear member 48 arranged between the swing lever and the electric driving source and in meshing engagement with the gear member of the electric driving source, the rotary gear member being directly connected to the swing lever.

As to claim 19, Mitsui discloses, wherein the unitarily rotatable element 35 includes a lifting lever 35 mounted on a shaft 9 that is integrally formed with a main body 8 of the pawl 14.

As to claim 20, Mitsui discloses, wherein the lifting lever 35 includes an engaging portion (the engaging portion is the portion of the lifting lever that contacts the bent tab portion 34 of the open link) contacted by an engaging portion 34 of the open link 26.

As to claim 21, Mitsui discloses, a door lock system for a vehicle comprising: a rotatable latch 5 including a latch groove (near 13) for receiving a striker 2 of a vehicle body; a rotatable pawl 14 adapted to contact the latch to prevent rotation of the latch, including a unitarily rotatable element 35 that rotates unitarily with the pawl; an open link 26/36 adapted to contact the unitarily rotatable element to rotate the unitarily rotatable element and the pawl so that the pawl is moved out of contact with the latch, the open link being shiftable between an unlocked position (the "UNLOCK" position shown in Figure 1) and a locked position (the positions labeled as "LOCK" and "N" in Figure 1 are locked positions because in both positions the latch retains the striker 2); a swing lever 53 connected to the open link; a rotatably mounted inside lever 29/33 adapted to be operatively connected to a door handle (a key is a handle) to rotate in response to operation of the door handle, the inside lever having a part 29/30 engageable with an engaging portion 28 of the open link when the open link is in the unlocked position so that rotation of the inside lever resulting from operation of the door handle causes the open link to move in a non-rotating manner into contact with the unitarily rotatable element; an electric driving source 45 having a gear member 47; and a rotary gear member 48/56 arranged between the swing lever and the electric driving source and in meshing engagement with the gear member of the electric driving source to rotate in response to operation of the electric driving source, the rotary gear member being directly connected to the swing lever, with rotation of the rotary gear member resulting from operation of the electric driving source moving the swing lever to shift

Art Unit: 3677

the open link from the unlocked position to the locked position without causing rotation of the unitarily rotatable element.

As to claim 22, Mitsui discloses, wherein the open link 26 is shiftable between an unlocked position (labeled "UNLOCK" in Figure 1) and a locked position (labeled "N" and "LOCK" in Figure 1), the open link being engageable and disengageable with the latch mechanism 5/14 when the open link is in the unlocked position, the open link being unable to engage the latch mechanism when the open link is in the locked position (when the bar 36 is shifted to the locked position, this places the open link in a locked condition, as shown in Figure 11, where the latch mechanism cannot be engaged by the open link tab 34 through use of the rotary gear member 48 and drive 45 because the connection between 39 and 40 is broken; col.4, ln.30-45).

As to claim 23, Mitsui discloses, wherein the open link 26 is shiftable between an unlocked position (labeled as "UNLOCK" in Figure 1) and a locked position (labeled as "N" and "LOCK" in Figure 1), the open link being adapted to contact the unitarily rotatable element 35 to rotate the unitarily rotatable element and the pawl 14 so that the pawl is moved out of contact with the latch 5 when the open link is in the unlocked position, the open link being unable to contact the unitarily rotatable element when the open link is in the locked position (when the bar 36 is shifted to the locked position, this places the open link in a locked condition, as shown in Figure 11, where the latch mechanism cannot be engaged by the open link tab 34 through use of the rotary gear member 48 and drive 45 because the connection between 39 and 40 is broken; col.4, ln.30-45).

Art Unit: 3677

As to claim 24, Mitsui discloses, wherein the open link 26/36 is shiftable between an unlocked position (labeled as "UNLOCK" in Figure 1) and a locked position (labeled as "N" and "LOCK" in Figure 1), the open link being adapted to contact the unitarily rotatable element 35 to rotate the unitarily rotatable element and the pawl 14 so that the pawl is moved out of contact with the latch 5 when the open link is in the unlocked position, the open link being unable to contact the unitarily rotatable element when the open link is in the locked position (when the open link portion 36 is shifted to the locked position in Figure 11, the latch mechanism cannot be engaged by the open link tab 34 through use of the rotary gear member 48 and drive 45 because the connection between 39 and 40 is broken; col.4, ln.30-45).

As to claim 25, Mitsui discloses, wherein the swing lever 53 is provided with one of a pin 52 and a groove, and the open link 26 is provided with the other of the pin and the groove 57, said pin being positioned in the groove.

As to claim 26, Mitsui discloses, wherein the swing lever 53 is provided with one of a pin 52 and a groove, and the open link 26 is provided with the other of the pin and the groove 57, said pin being positioned in the groove.

As to claim 27, Mitsui discloses, wherein the swing lever 53 is provided with one of a pin 52 and a groove, and the open link 26/36 is provided with the other of the pin and the groove 57, said pin being positioned in the groove.

As to claim 28, Mitsui discloses, wherein the swing lever 53 is provided with one of a pin 54 and a concave portion, and the rotary gear member 48 is provided with the other of the pin and the concave portion 55, the pin engaging the concave portion so that rotation of the rotary gear member results in rotation of the swing lever.

Art Unit: 3677

As to claim 29, Mitsui discloses, wherein the swing lever 53 is provided with one of a pin 54 and a concave portion, and the rotary gear member 48 is provided with the other of the pin and the concave portion 55, the pin engaging the concave portion so that rotation of the rotary gear member results in rotation of the swing lever.

As to claim 30, Mitsui discloses, wherein the rotary gear member 48 is an element separate from the swing lever 53 (the elements are separate levers joined by a pin and slot relationship).

As to claim 31, Mitsui discloses, wherein the rotary gear member 48 is an element separate from the swing lever 53.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsui US5642636 in view of Fukumoto US5306081, and further in view of cited case law.

As to claim 5, Mitsui discloses, further comprising: a concave portion 55 formed in the rotary gear member 48; and a pin 54 formed in the swing lever 53 and extending into the concave portion so that the pin engages the concave portion by the rotation of the rotary gear member.

The difference between the claims and Mitsui is the claims recite, a concave portion formed in the swing lever; and a pin formed in the rotary gear member and extending into the

Art Unit: 3677

concave portion so that the pin engages the concave portion by the rotation of the rotary gear member (reversing the pin in slot relationship of Mitsui).

Fukumoto discloses a device for a vehicle, similar to the vehicle of Mitsui. In addition, Fukumoto further teaches that it is equivalent to reverse the pin and slot relationship between two parts (col.16, ln.60-67). It would have been obvious to one of ordinary skill in the art, having the disclosures of Mitsui and Fukumoto before him at the time the invention was made, to modify the pin and concave portion of Mitsui to be reversed (placing the slot on the part that originally has the pin, while also placing the pin on the part originally having the slot), as in Fukumoto, to obtain a mirror-image pin and slot assembly. One would have been motivated to make such a combination because: Inasmuch as the references disclose these elements as art recognized equivalents, it would have been obvious to one of ordinary skill in the exercise art to substitute one for the other. In re Fout, 675 F.2d 297, 301, 213 USPQ 532, 536 (CCPA 1982). Also, the reversal of components in a prior art reference, where there is no disclosed significance to such reversal, is a design consideration within the skill of the art. In re Gazda, 219 F.2d 449, 104 USPQ 400 (CCPA 1955); In re Japikse, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950).

Response to Arguments

Applicant argues (P. 9) that the element 29/33 does not both move into contact with the moving bar 26 and out of contact with the moving bar 26, and further states that the element 29/33 always contacts the moving bar 26. In response to this argument, the Examiner directs Applicant to Figure 1 of Mitsui. As shown, the bent portion 30 of the rod 29 passes through the slot 28 (in bar 26) and into a hole 38 (in bar 36). The drawing shows that the rod 30 has a diameter that is less than the width of the slot 28. Therefore, the rod 29 only contacts the end

Art Unit: 3677

edges of slot 28 (and bar 26) when the rod end 30 contacts the arcuate ends of the slot 28. At any position between the "N" condition and the "LOCK" condition, the rod 29 is not in contact with the open link 26.

Applicant argues (P. 10) that amended claim 21 has limitations not shown in Mitsui. Specifically, Applicant has added language that recites "rotation of the rotary gear member resulting from operation of the electric driving source moving the swing lever to shift the open link from the unlocked position to the locked position without causing rotation of the unitarily rotatable element." In response to this argument, Applicant is directed to Figure 10 of Mitsui, where the open link 26 is in unlocked position, and from this position, the open link will move towards the left (due to spring 56 biasing the rotary gear member 48) back to the locked position (the rest position in Figure 1). This movement of 26 from the unlocked to locked position will not cause rotation of unitarily rotatable element 35 because 35 is not affixed to tab 34. From the position shown in Figure 10, as the open link 26 moves to the left, 35 will remain at the position shown. If 35 rotates counter-clockwise it would only be caused by the biasing of spring element 12, and would not be caused by the rotary gear member or the open link.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas Y Ho whose telephone number is (703)305-4556. The examiner can normally be reached on M-F 10:00AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J Swann can be reached on (703)306-4115. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3677

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TYH



ROBERT J. SANDY
PRIMARY EXAMINER